

WHAT IS CLAIMED IS:

1. An electroluminescent film device having a light-emitting layer where an excited state generated by electron-hole recombination is utilized for photon generation, in which device the light-emitting layer contains;

a material in which the quantum number of orbital angular momentum and the quantum number of excited state spin are convertible into each other by their interaction, and

a light-emitting molecule mixed into the above material.

2. An electroluminescent film device according to Claim 1, wherein the material in which the quantum number of orbital angular momentum and the quantum number of excited state spin are convertible into each other by their interaction, is a molecule in which a heavy metal atom is bonded to or coordinated to an organic material.

3. An electroluminescent film device according to Claim 2, wherein the heavy metal atom is Ir or Pt.

4. An electroluminescent film device according to Claim 1, wherein the light-emitting molecule is a molecule in which a heavy metal atom is bonded to or coordinated to an organic material.

5. An electroluminescent film device according to Claim 4, wherein the heavy metal atom is Ir or Pt.

6. An electroluminescent film device having a

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light-emitting layer where an excited state generated by electron-hole recombination is utilized for photon generation, in which device the light-emitting layer is an organic film formed by simultaneous vapor deposition, containing:

a material in which the quantum number of orbital angular momentum and the quantum number of excited state spin are convertible into each other by their interaction, and

a light-emitting molecule,
each as an independent dopant.

7. An electroluminescent film device according to Claim 6, wherein the material in which the quantum number of orbital angular momentum and the quantum number of excited state spin are convertible into each other by their interaction, is a molecule in which a heavy metal atom is bonded to or coordinated to an organic material.

8. An electroluminescent film device according to Claim 7, wherein the heavy metal atom is Ir or Pt.

9. An electroluminescent film device according to Claim 6, wherein the light-emitting molecule is a molecule in which a heavy metal atom is bonded to or coordinated to an organic material.

10. An electroluminescent film device according to Claim 9, wherein the heavy metal atom is Ir or Pt.

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